



**LAC DPH Health Advisory:
Foul Odors Reported in the Vicinity of the
Dominguez Channel in Carson and
Surrounding Communities**

October 14, 2021



This message is intended for all healthcare providers serving residents of the City of Carson and surrounding areas.

Please distribute as appropriate.

Key Messages

- Elevated, but not toxic, concentrations of hydrogen sulfide have been identified in the vicinity of the Dominguez Channel in Carson, California, and are causing a strong, foul, “rotten egg” odor. It is believed to be due to the natural decay of organic material (vegetation and marine life) at the bottom and sides of the Channel.
- People in the City of Carson and surrounding communities have been reporting these odors, and some are experiencing symptoms. Persons with persistent, worrisome, or worsening symptoms are being advised by Public Health to seek medical attention and to take additional steps to mitigate their symptoms.
- While solutions to resolve the issue are being identified, a timetable for resolution is not yet known. Residents and healthcare providers are encouraged to visit the LAC DPH [Dominguez Channel Odor Event](#) website for the most current information.

Situation

Multiple agencies are addressing reports of strong, foul odors in the vicinity of Dominguez Channel in Carson, West Carson, and neighboring communities. Air quality has been monitored since complaints of the odor started being reported to the South Coast Air Quality Management District (SCAQMD) early last week. Intermittently elevated, but not toxic, levels of hydrogen sulfide have been identified in the air in communities in the vicinity of the Channel. At this time, the source appears to be naturally decaying organic material (vegetation and marine life) at the bottom and sides of the Channel. No other point sources have been identified as air monitoring of the surrounding areas continues.

Hydrogen sulfide (H₂S) is a colorless gas that smells like rotten eggs. It has a low odor threshold. The lower detection limit of typical equipment used to monitor hydrogen sulfide is 1 part per million (ppm) [One ppm equals 1000 parts per billion (ppb)]. However, people can detect odors from hydrogen sulfide at levels as low as 0.0005 ppm (or 0.5 ppb). Odors can be quite strong, even at very low levels, and may induce temporary symptoms. These symptoms typically resolve when the odor subsides or when the person is in an area where the odors are not present.

People in Carson and in surrounding areas have been reporting symptoms as a result of these odors. The symptoms reported have largely ranged from mild to moderate, regardless of the strength of the foul odors detected. As odors have been noted to be fluctuating and intermittently present in the affected areas, some people may have fluctuating symptoms, while patients with continuous exposure to odors may present with persistent symptoms. People are being advised to seek medical attention for persistent, worrisome, or worsening symptoms and to take additional steps to mitigate their symptoms.

Actions Requested of Providers

- For patients presenting with headache, dizziness, ocular or sinopulmonary irritation, and/or gastrointestinal complaints, assess for a history of recent (since October 3, 2021) exposures to foul odors (like “rotten eggs”) in relationship to their symptoms. If odors were present, ask where the odor was detected and how strong the odor was. If the symptoms occurred in the presence of the odors, exposure to hydrogen sulfide may be the cause of their symptoms. Note: symptoms typically resolve when the odor subsides or when the person is in an area where the odors are not present.
- Evaluate and treat patients symptomatically and in accordance with clinical judgement.
- Recommend that patients experiencing the odors take measures to reduce their exposure to the odors, such as:
 - Keeping doors and windows closed as much as possible when the odors are present outside. When odors are not present outside, open windows to air out the building.
 - Changing the air filters on their central HVAC system to ones that are HEPA or MERV-rated filter with activated carbon (charcoal) to improve indoor air quality and odors.
 - Using a certified portable HEPA indoor air filter with activated charcoal to improve indoor air quality and odors.
 - Temporarily leaving the area where odors are present to alleviate persistent, worrisome, or worsening symptoms.
- Advise patients to seek immediate medical care if their symptoms feel life threatening.
- Provide those experiencing the odors with the most recent [Community Notice on the County’s Response to Odors Reported in the City of Carson](#), which includes guidance on choosing HVAC air filters with activated carbon, information on certified portable HEPA indoor filters with activated carbon, and potential support.
- Advise patients to report odors daily to the South Coast Air Quality Management District at <http://www.aqmd.gov/home/air-quality/complaints> or by telephone at 1-800-CUT-SMOG (1-800-288-7664).

Advice for the Use of Masks for COVID-19 Prevention in Areas with the Odor:
Masks used for preventing COVID-19, including the more advanced N95 or P-100 respirators, are not designed to provide protection from gases. Mask-wearing to prevent

COVID-19 is still advised. When odors are present, advise those wearing a mask for COVID-19 prevention to change their mask frequently throughout the day. Moisture buildup inside masks has the potential to trap trace amounts of hydrogen sulfide, which may become a source of prolonged exposure to hydrogen sulfide even when the odor is no longer present in the air.

Hydrogen Sulfide Overview

What Is It?

Hydrogen sulfide (also known as H₂S) is a colorless gas with a strong odor of rotten eggs, even at low concentrations in the air. Most of the hydrogen sulfide released to air comes from natural sources such as swamps, stagnant bodies of water, and volcanoes. It is also associated with municipal sewers and sewage treatment plants. It can also be released from industrial sources such as petroleum refineries, natural gas plants, petrochemical plants, kraft paper mills, manure treatment facilities, wastewater treatment facilities, and tanneries, among other sources.

Clinical Presentation

It is both an irritant and a chemical asphyxiant with effects on both oxygen utilization and the central nervous system. Its health effects can vary depending on the level and duration of exposure. Mild-to-moderate symptoms occur primarily as a physiologic response to odors caused by hydrogen sulfide. Symptoms may be worse in people with pre-existing health conditions, such as lung or heart conditions.

- **Mild symptoms** include headache; ocular and sinopulmonary irritation (e.g., burning/tearing of eyes, cough, shortness of breath); and nausea/abdominal discomfort.
- **Moderate symptoms** may include the above, in addition to malaise, dizziness, vomiting, and/or dyspnea.
- **Severe acute symptoms** include shock, coma, convulsions, and death via direct neurotoxicity from hydrogen sulfide.

Mild and moderate symptoms are usually transient and reversible with removal from the exposure and reflect the characteristics of physiological responses to the odor. It should be noted that considerable variation in symptom severity may be seen among members of the same household.

Diagnosis and Treatment

Physiological response to hydrogen sulfide should be suspected in patients with a history of exposure to odors in the City of Carson and surrounding areas who have physical symptoms consistent with a hydrogen sulfide exposure.

Providers should use their clinical judgement in evaluating and treating patients presenting with any symptoms occurring in the presence of foul odors. Based on the patient's symptoms, physical exam findings, and underlying health conditions and the provider's clinical judgement, it may be reasonable to check any of the following: CBC, blood glucose, electrolytes, renal function, and ECG and, if applicable, fetal monitoring.

Chest radiography and pulse oximetry (or ABG measurements) may also be reasonable.

Mild to moderate symptoms generally resolve with separation from the odors and symptomatic treatment.

Severe symptoms should be treated according and, if needed, in consultation with the Poison Control Center, (800) 222-1222.

Additional Resources:

- **LA County Emergency:** <https://lacounty.gov/emergency/>
- **LAC DPH Dominguez Channel Odor Event website:** <http://publichealth.lacounty.gov/media/dominguezchannelodorevent/>
- **LAC DPH Community Notice (10-12-21)** [English](#) [Spanish](#)
- **CDC ATSDR:** [Hydrogen Sulfide - ToxFAQs](#)

To view this and other communications or to sign-up to receive LAHANs, please visit <http://publichealth.lacounty.gov/lahan>